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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,581	07/08/2003	Otman A. Basir	60,449-072	8290

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EXAMINER

DEB, ANJAN K

ART UNIT	PAPER NUMBER
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2858

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/615,581	BASIR ET AL.	
	Examiner	Art Unit	
	Anjan K. Deb	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 11, 13-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Wallace (US 2003/0040858 A1).

Re claim 1, Wallace discloses an occupant classification system and method comprising at least one load sensor (weight estimation module 200)(Fig. 2) for determining an amount of load on a vehicle seat, and at least one occupant presence detection sensor for determining whether the load is animate (“live”) (para 0087), wherein the system determines that a child seat is present on the vehicle based upon the load sensor determining the weight load on the vehicle seat an empty threshold and based upon OPD sensor indicating no occupant is present [para 0181, and distinguish between live occupant and child seat, para 0182].

Re claim 11, Wallace discloses method for classifying an occupant of a vehicle seat including the steps of:

- a) determining a load on the vehicle seat (weight estimation module 200)(Fig. 2); and
- b) determining whether the load on the vehicle seat is animate (“live”) or inanimate (para 0087),

c) determining that a child seat is present based-upon a determination in said step a) that the load exceeds the empty seat threshold [para 0304] and a determination in said step b) that the load is inanimate [para 0181, and distinguish between live occupant and child seat, para 0182].

Re claim 13, Wallace discloses determining weight of occupant based upon steps a) and b) (see weight estimation module 200, Fig. 2, 16, 17).

Re claim 14, Wallace discloses the step of: d) tracking a position of a head of an occupant of the vehicle seat [para 0088, deflection pattern change with head position].

Re claim 15, Wallace discloses step c) further includes the step of determining the weight based upon said step d) (weight estimation module 200)(Fig. 2).

Re claim 16, Wallace discloses method for classifying occupant of a vehicle seat including the steps of

- a) measuring a load on the vehicle seat [para 0023];
- b) determining a position of a head of an occupant of the vehicle seat [para 0088]; and
- c) classifying the occupant based upon said steps a) and b) [0023].

Re claim 17, Wallace discloses the step of:

d) determining whether the occupant is lying against a back of the vehicle seat, wherein said step c) further includes the step of classifying the occupant based upon said step d) [para 0088].

Re claim 18, Wallace discloses the step of: determining an angle of inclination of the occupant based upon said step b) said step c) further includes the step of classifying the occupant based upon the angle of inclination (leaning)(Fig. 5).

Re claim 19, Wallace discloses the step of determining a weight of the occupant based upon the angle of inclination [para 0088, 0092].

Re claim 20, Wallace discloses the step of determining whether occupant is in a child seat based upon the angle of inclination (sensor deflections created by occupant position)[para 0161, 0165].

Re claim 21, Wallace discloses method for classifying occupant of a vehicle seat including the steps of:

- a) determining a position of a head of an occupant of the vehicle seat [para 0088];
- b) determining an angle of inclination of a seat back of the vehicle seat [para 0011, 0088, 0090]; and
- c) determining whether the occupant is leaning against the seat back based upon said steps a) and b) [0023].

Re claim 22, Wallace discloses d) measuring load on vehicle seat and e) determining a weight of occupant based upon steps c) and d) (see weight estimation module 200, Fig. 2, 16, 17).

Re claim 23, Wallace discloses the step of compensating for the occupant leaning against the seat back in the determination of the weight of the occupant [para 0025] in said step e).

Re claim 24, Wallace discloses determining a weight of occupant based upon the angle of inclination (relative deflections)[0025].

Re claims 25,26, Wallace discloses the position of the head of the occupant is determined independently of a position of a lower body of the occupant on the vehicle seat [0088, see leg length and position, para 0089].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1, 2, 11-13,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stanley US (6,703,845 B2).

Re claim 1,11, Stanley discloses an occupant classification system (occupant size and position)(column 2 lines 25-34) and method comprising at least one load sensor (weight sensor) for determining an amount of load on a vehicle seat, and at least one occupant presence detection (OPD) sensor for determining whether the load is animate (human body) (column 4 lines 60-65), wherein the system determines that a child seat is present (column 4 lines 24-27).

Stanley did not expressly disclose load sensor determining the weight load on the vehicle seat based on an empty threshold but would have been obvious since Stanley disclosed determining occupant of small stature based on maximum and minimum threshold and also for taking into account any uncertainty in the measurements (column 5 lines 31-39).

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Stanley by adding an empty threshold limit value for accurately determining weight load on the vehicle seat.

Re claims 2,12,13 Stanley discloses OPD sensor measures capacitance of the load (column 4 lines 60-65).

Re claim 16, Stanley discloses determining position of the head (inherent) (out of position detection)(proximity of object)(column 5 lines 2-5, column 6, lines 12-22, column 7 lines 48-50). Determining position of head is inherently disclosed because Stanley disclosed “capacitive electric field sensor to determine whether occupant is proximate the air bag door” (column 4 lines 46-65), “determining whether occupant is out of position”, “sensing occupant

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position”, and also by realizing that a change in occupant position would be accompanied by a change in position of the head.

5. Claims 3,4, 6-8, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stanley US (6,703,845 B2) in view of Owechko (US 6,801,662 B1).

Re claims 3, 4, 6-8, 14-15 Stanley disclosed all of the claimed limitations as set forth above except head-tracking system (HTS) for determining a position of a head of an occupant of the vehicle seat.

Owechko disclosed head-tracking system (HTS) for determining a position of a head of an occupant of the vehicle seat for detecting occupant out of position (OOP) situation.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Stanley by adding head-tracking system disclosed by Owechko for determining a position of a head of an occupant of the vehicle seat for detecting occupant out of position (OOP) situation.

Re claim 6, Stanley discloses an array of capacitive sensors (spaced electrodes 64) (Fig. 4).

Re claim 7, Stanley discloses the position of the head with respect to a position of the vehicle seat to determine an inclination (position) of the occupant (out of position)(column 5 lines 2-5).

Re claims 8,15 Stanley did not expressly disclose that the weight of the occupant is determined based upon the inclination of the occupant but would have been obvious to do so since Stanley disclosed that both weight and position of occupant are used for controlling deployment of airbag.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Stanley and Owechko by adding weight determination based upon the inclination of the occupant for accurately determining occupant position for controlling deployment of airbag.

6 . Claims 9,10,18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stanley US (6,703,845 B2), and Owechko (US 6,801,662 B1), in view of Breed (US 6,412,813 B1).

Re claims 9, 10, 18-20 Stanley and Owechko disclosed all of the claimed limitations except seat back angle sensor.

Breed disclosed method and system for detecting a child seat comprising seat back angle sensor.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Stanley and Owechko by adding seatback angle sensor disclosed by Breed for detecting occupant is a child seat.

7. Claim 17, is rejected under 35 U.S.C. 103(a) as being unpatentable over Stanley US (6,703,845 B2).

Re claim 17, Stanley disclosed all of the claimed limitations except determining that occupant is lying against a back of seat. However it would have been obvious to do so because Stanley disclosed determining the position of occupant.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Stanley by adding determining that occupant is lying against a back of seat because Stanley disclosed determining the position of occupant.

Response to Arguments

8. In response to applicant's arguments that Stanley does not disclose empty seat threshold for detecting child seat, this feature would have been obvious to account for any measurement uncertainty.

In response to applicant's arguments that Stanley does not disclose determining head position, this feature is considered to be obvious since Stanley disclosed capacitive electric field detector is provided to "determine whether an occupant is proximate the air bag door", "determining whether occupant is out of position", "sensing occupant position", therefore it is clear to the examiner that a change in occupant position would be accompanied by a change in position of the head.

Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Anjan K. Deb whose telephone number is 571-272-2228. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lefkowitz Edwards can be reached at 571-272-2180.



Anjan K. Deb

Patent Examiner

Art Unit: 2858

7/7/05

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